

EXHIBIT 2

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1 in my 11/30/2022 Opening Report. *See, e.g.,* 11/30/2022 Almeroth Opening Report at ¶¶ 199-
2 226.

3 65. As further shown and described above and in **Appendix A**, when an Accused
4 Google Player installed with newly-released firmware version 1.56.324896 and/or firmware
5 version 1.63 is operating in standalone mode and is individually engaging in active playback at the
6 time the Accused Google Player is added to a new speaker group, the Accused Google Player will
7 continue to operate in standalone mode after the new speaker group is created and saved but the
8 Accused Google player will stop engaging in active playback. In this respect, the behavior of an
9 Accused Google Player that I observed in these scenarios does differ from how an Accused Google
10 Player behaved when installed with the prior firmware versions that I analyzed in my 11/30/2022
11 Opening Report. In particular, as I explained in my 11/30/2022 Opening Report, when an Accused
12 Google Player installed with a prior firmware version is operating in standalone mode and is
13 individually engaging in active playback at the time the Accused Google Player is added to a new
14 speaker group, the Accused Google Player will continue to operate in standalone mode and *will*
15 *also continue to engage in active playback* after the new speaker group is created and saved,
16 whereas an Accused Google Player installed with newly-released firmware version 1.56.324896
17 and/or firmware version 1.63 will continue to operate in standalone mode *but will stop engaging*
18 *in active playback* after the new speaker group is created and saved.

19 66. Even though newly-released firmware version 1.56.324896 (and firmware version
20 1.63) appears to have changed the behavior of an Accused Google Player that is operating in
21 standalone mode and is individually engaging in active playback at the time the Accused Google
22 Player is added to a new speaker group, the testing I oversaw and directed showed that such an
23 Accused Google Player installed with newly-released firmware version 1.56.324896 still continues
24 to operate in standalone mode after the new speaker group is created and saved, as shown and
25 described above and in the screenshots included in **Appendix A**. This is confirmed by the fact
26 that (i) the new speaker group is not launched or otherwise activated at the time it is created and
27 (ii) the only observable change in the behavior of the Accused Google Player being added to the
28 new speaker group is that if the Accused Google Player was individually engaging in active

1 playback prior to being added to the new speaker group, it merely stops that active playback, which
2 is not reflective of any operation in accordance with the new speaker group.

3 **2. Modifying a Pre-Existing Speaker Group**

4 67. As shown in the screenshots included in **Appendix A**, four different scenarios were
5 tested for adding a target Accused Google Player installed with newly-released firmware version
6 1.56.324896 or firmware version 1.63 to a pre-existing speaker group of Accused Google Players
7 installed with newly-released firmware version 1.56.324896 and/or firmware version 1.63.

8 68. In *Scenario #1*, a target Accused Google Player (“Kitchen”) that is operating in
9 standalone mode and is individually engaging in active playback is added to a pre-existing speaker
10 group (“Morning”) of Accused Google Players (“Attic speaker” and “Den speaker”) at a time when
11 the pre-existing speaker group is not launched and each Accused Google Player in the pre-existing
12 speaker group is operating in standalone mode in which the Accused Google Player is configured
13 to play back audio individually. As shown in the screenshots in **Appendix A**, after the target
14 Accused Google Player is added to the pre-existing speaker group, the speaker group remains
15 unlaunched and the target Accused Google Player that is added continues to operate in standalone
16 mode but stops engaging in active playback.

17 69. It is clear from the screenshots in **Appendix A** that the “Morning” speaker group
18 remains unlaunched and that the target Accused Google Player that is added continues to operate
19 in standalone mode because, for example, the Google Home app did not highlight the “Morning”
20 group icon or present the word “Playing” within the “Morning” group icon, thereby showing that
21 the new “Morning” group has not been launched (nor has any other speaker group of which the
22 target Accused Google Player is a member).

23 70. In *Scenario #2*, a target Accused Google Player (“Kitchen”) that is operating in
24 standalone mode and is not engaging in active playback is added to a pre-existing speaker group
25 (“Morning”) of Accused Google Players (“Attic speaker” and “Den speaker”) at a time when the
26 pre-existing speaker group is not launched and each Accused Google Player in the pre-existing
27 speaker group is operating in standalone mode in which the Accused Google Player is configured
28 to play back audio individually. As shown in the screenshots in **Appendix A**, after the target

1 Accused Google Player is added to the pre-existing speaker group, the speaker group remains
2 unlaunched and the target Accused Google Player continues to operate in standalone mode and
3 continues to not engage in active playback.

4 71. It is clear from the screenshots in **Appendix A** that the “Morning” speaker group
5 remains unlaunched and that the target Accused Google Player that is added continues to operate
6 in standalone mode because, for example, the Google Home app did not highlight the “Morning”
7 group icon or present the word “Playing” within the “Morning” group icon, thereby showing that
8 the new “Morning” group has not been launched (nor has any other speaker group of which the
9 target Accused Google Player is a member).

10 72. In *Scenario #3*, a target Accused Google Player (“Kitchen”) that is operating in
11 standalone mode and is individually engaging in active playback (playing “Cheap Thrills”) is
12 added to a pre-existing speaker group (“Morning”) of Accused Google Players (“Attic speaker”
13 and “Den speaker”) at a time when (i) the pre-existing speaker group is launched such that each
14 Accused Google Player in the pre-existing speaker group is operating in a grouped mode in which
15 the Accused Google Player is configured to play back audio as part of the pre-existing speaker
16 group and (ii) the Accused Google Players in the pre-existing speaker group are synchronously
17 engaging in active playback with one another (playing “Side to Side”). As shown in the
18 screenshots in **Appendix A**, after the target Accused Google Player is added to the pre-existing
19 speaker group, the speaker group remains launched, the original members of the speaker group
20 continue to synchronously engage in active playback with one another, and the target Accused
21 Google Player transitions from operating in standalone mode to operating in a grouped mode in
22 which the target Accused Google Player is configured to play back audio as part of the speaker
23 group and begins to synchronously engage in active playback along with the other group members.
24 In this regard, after the target Accused Google Player (“Kitchen”) is added to the pre-existing
25 speaker group (“Morning”), the Google Home app continues to highlight the “Morning” group
26 icon and continues to present the word “Playing” within the “Morning” group icon to indicate that
27 the “Morning” group remains launched and that each Accused Google Player in the “Morning”
28 group (including the added target Accused Google Player (“Kitchen”)) is operating in a grouped

1 mode in which the Accused Google Player is configured to play back media in synchrony with the
2 other Accused Google Players as part of a launched group.

3 73. In *Scenario #4*, a target Accused Google Player (“Kitchen”) that is operating in
4 standalone mode and is not engaging in active playback is added to a pre-existing speaker group
5 (“Morning”) of Accused Google Players (“Attic speaker” and “Den speaker”) at a time when (i)
6 the pre-existing speaker group is launched such that each Accused Google Player in the pre-
7 existing speaker group is operating in a grouped mode in which the Accused Google Player is
8 configured to play back audio as part of the pre-existing speaker group and (ii) the Accused Google
9 Players in the pre-existing speaker group are synchronously engaging in active playback with one
10 another (playing “Bang Bang”). As shown in the screenshots in **Appendix A**, after the target
11 Accused Google Player was added to the pre-existing speaker group, the speaker group remains
12 launched, the original members of the speaker group continue to synchronously engage in active
13 playback with one another, and the target Accused Google Player transitions from operating in
14 standalone mode to operating in a grouped mode in which the target Accused Google Player is
15 configured to play back audio as part of the speaker group and begins to synchronously engage in
16 active playback along with the other group members. In this regard, after the target Accused
17 Google Player (“Kitchen”) is added to the pre-existing speaker group (“Morning”), the Google
18 Home app continues to highlight the “Morning” group icon and continues to present the word
19 “Playing” within the “Morning” group icon to indicate that the “Morning” group remains launched
20 and that each Accused Google Player in the “Morning” group (including the added target Accused
21 Google Player (“Kitchen”)) is operating in a grouped mode in which the Accused Google Player
22 is configured to play back media in synchrony with the other Accused Google Players as part of a
23 launched group.

24 74. During testing of *Scenario #3* and *Scenario #4*, I also audibly observed that after
25 the target Accused Google Player was added to the launched speaker group, all the Accused
26 Google Players in the launched speaker group were playing the same audio, and it sounded to me
27 as though all the Accused Google Players in the launched speaker group were outputting the same
28 audio in synchrony with one another.

Target Accused Google Player operating in standalone mode and individually engaging in active playback	Target Accused Google Player transitions from operating in standalone mode to operating in grouped mode in accordance with launched speaker group and begins to synchronously engage in active playback with other group members	Yes See Schonfeld Rebuttal Report at ¶ 51
Pre-existing speaker group (i) launched such that each Accused Google Player in pre-existing speaker group operating in grouped mode and (ii) engaging in active playback		
Scenario #4		
Target Accused Google Player operating in standalone mode and <u>not</u> engaging in active playback	Target Accused Google Player transitions from operating in standalone mode to operating in grouped mode in accordance with launched speaker group and begins to synchronously engage in active playback with other group members	Yes See Schonfeld Rebuttal Report at ¶ 52
Pre-existing speaker group (i) launched such that each Accused Google Player in pre-existing speaker group operating in grouped mode and (ii) engaging in active playback		

76. As shown and described above and in **Appendix A**, a target Accused Google Player installed with newly-released firmware version 1.56.324896 and/or firmware version 1.63 that is operating in standalone mode is capable of being added to a pre-existing speaker group regardless of whether or not the Accused Google Player is engaging in active playback. This functionality provided by newly-released firmware version 1.56.324896 has not changed from the prior firmware versions that I analyzed in my 11/30/2022 Opening Report. *See, e.g.*, 11/30/2022 Almeroth Opening Report at ¶¶ 199-226.

77. As also shown and described above and in **Appendix A**, when an Accused Google Player installed with newly-released firmware version 1.56.324896 and/or firmware version 1.63 is operating in standalone mode and is individually engaging in active playback at the time the Accused Google Player is added to a pre-existing speaker group that is not launched, the Accused Google Player will continue to operate in standalone mode after being added to the pre-existing speaker group but stops engaging in active playback. In this respect, the behavior of an Accused Google Player that I observed in these scenarios does appear to differ from how an Accused Google

1 Player behaved when installed with the prior firmware versions that I analyzed in my 11/30/2022
2 Opening Report. In particular, it is my understanding that when an Accused Google Player
3 installed with a prior firmware version is operating in standalone mode and is individually
4 engaging in active playback at the time the Accused Google Player is added to a pre-existing
5 speaker group that is not launched, the Accused Google Player will continue to operate in
6 standalone mode and *will also continue to engage in active playback* after being added to the pre-
7 existing speaker group, whereas an Accused Google Player installed with newly-released firmware
8 version 1.56.324896 and/or firmware version 1.63 will continue to operate in standalone mode *but*
9 *will stop engaging in active playback* after being added to the pre-existing speaker group.

10 78. Even though newly-released firmware version 1.56.324896 (and firmware version
11 1.63) appears to have changed the behavior of an Accused Google Player that is operating in
12 standalone mode and is individually engaging in active playback at the time the Accused Google
13 Player is added to a pre-existing speaker group that is not launched, the testing I oversaw and
14 directed showed that an Accused Google Player with newly-released firmware version
15 1.56.324896 still continues to operate in standalone mode after being added to the pre-existing
16 speaker group, as shown and described above and in the screenshots included in **Appendix A**.

17 79. As further shown and described above and in **Appendix A**, when an Accused
18 Google Player installed with newly-released firmware version 1.56.324896 and/or firmware
19 version 1.63 is operating in standalone mode and not engaging in active playback at the time the
20 Accused Google Player is added to a pre-existing speaker group that is not launched, the Accused
21 Google Player will continue to operate in standalone mode and continue to not engage in active
22 playback after being added to the pre-existing speaker group. In this respect, the behavior of an
23 Accused Google Player that I observed in these scenarios appears to be no different from how an
24 Accused Google Player behaved when installed with the prior firmware versions that I analyzed
25 in my 11/30/2022 Opening Report. *See, e.g., 11/30/2022 Almeroth Opening Report at ¶¶ 199-*
26 *226.*

27 80. As further shown and described above and in **Appendix A**, when an Accused
28 Google Player installed with newly-released firmware version 1.56.324896 and/or firmware

1 programmed with the functionality represented by the foregoing source code path continues to
2 operate in “standalone mode” after being added to a new speaker group and receiving “join_group”
3 message indicating that the Accused Google Player has been added to the new speaker group.

4 88. Based on my analysis of the source code produced at SC-GOOG-SONOSNDCA-
5 001598 - SC-GOOG-SONOSNDCA-001682, it appears to me that the functionality carried out by
6 an Accused Google Player installed with newly-released firmware version 1.56.324896 when
7 receiving a “join_group” message indicating that the Accused Google Player has been added to a
8 new speaker group is very similar to the functionality that is represented by the foregoing source
9 code path. In fact, the only relevant change I have observed in the source code is that
10 MultizoneManager::RefreshDeviceGroups() function now calls an additional function named
11 MultizoneManager::StopCurrentApp() (or “StopCurrentApp()” for short) prior to calling the
12 MultizoneManager::AddGroup() function. This is illustrated by the following excerpt of the
13 MultizoneManager::RefreshDeviceGroups() function that is reproduced in Dr. Schonfeld’s
14 Rebuttal Report:

```
base::flat_set<std::string> group_uids({virtual_group_uid_});  
for (const auto& g : local_groups) {  
    group_uids.insert(g.uuid);  
    auto it = groups_.find(g.uuid);  
    if (it == groups_.end()) {  
        StopCurrentApp();  
        AddGroup(g);  
    } else if (it->second->Reconfigure(g)) {  
        SaveGroupConfig(g);  
    } else {  
        continue;  
    }  
    groups_changed = true;  
}
```

22 Schonfeld Rebuttal Report at ¶ 59 (citing SC-GOOG-SONOSNDCA-001637 – 38).

23 89. In this respect, my understanding of how this additional call to the
24 MultizoneManager::StopCurrentApp() function impacts the functionality of an Accused Google
25 Player installed with newly-released firmware version 1.56.324896 is that, if such an Accused
26 Google Player is running a particular receiver app at the time that it receives “join_group” message
27 indicating that the Accused Google Player has been added to a new speaker group (e.g., the
28

1 YouTube Music receiver app), the MultizoneManager::StopCurrentApp() function will cause the
2 Accused Google Player to stop that particular receiver app. In this respect, if the particular receiver
3 app being run by the Accused Google Player is currently causing the Accused Google Player to
4 engage in active playback, then the MultizoneManager::StopCurrentApp() function will cause the
5 Accused Google Player to stop that active playback, whereas if the receiver app being run by the
6 Accused Google Player is not currently causing the Accused Google Player to engage in active
7 playback, then the MultizoneManager::StopCurrentApp() function will not impact the playback
8 state of the Accused Google Player. However, in either case, the additional call to the
9 MultizoneManager::StopCurrentApp() function does not cause an Accused Google Player
10 operating in a standalone mode to transition into a grouped mode in which it operates in accordance
11 with the new speaker group. Rather, the MultizoneManager::StopCurrentApp() function causes
12 an Accused Google Player operating in a standalone mode to stop its currently-running receiver
13 app (to the extent that there is a receiver app currently running) while the new speaker group
14 remains in an unlaunched state and the Accused Google Player remains in standalone mode.

15 90. Moreover, the other functions in the source code path for receiving and handling a
16 “join_group” message for a new speaker group do not appear to meaningfully differ from the
17 functions included in the foregoing source code path that was already found to infringe the
18 “continuing to operate in the standalone mode” limitation of Asserted Claim 1 of the ’885 Patent.
19 That includes the MultizoneManager::AddGroup() function referenced in the excerpt of the
20 MultizoneManager::RefreshDeviceGroups() function reproduced in Dr. Schonfeld’s Rebuttal
21 Report, which does not appear to meaningfully differ from the previous version of the
22 MultizoneManager::AddGroup() function that was already found to infringe the “continuing to
23 operate in the standalone mode” limitation of Asserted Claim 1 of the ’885 Patent.

24 **C. Dr. Schonfeld’s Discussion of Current Relevant Functionality**

25 91. In his “CURRENT RELEVANT FUNCTIONALITY OF THE ACCUSED
26 PRODUCTS” section of his Rebuttal Report, Dr. Schonfeld includes a sub-section entitled
27 “Grouping Functionality” in which he sets forth his understanding of the functionality for creating
28 a new speaker group and modifying a pre-existing speaker group that is encoded within newly-

1 released firmware version 1.56.324896. Schonfeld Rebuttal Report at ¶¶ 45-59. In that “Grouping
2 Functionality” sub-section, Dr. Schonfeld discusses certain testing that he performed and also
3 discusses the excerpt of the MultizoneManager::RefreshDeviceGroups() function that is
4 reproduced above. *Id.* However, I find many of Dr. Schonfeld’s statements, characterizations,
5 and conclusions in his that “Grouping Functionality” sub-section to be unsupported, incomplete,
6 misleading, and/or inaccurate.

7 92. For instance, starting with paragraph 47 of his Rebuttal Report, Dr. Schonfeld
8 makes the following statement regarding the functionality for creating a new speaker group and
9 modifying a pre-existing speaker group that is encoded within newly-released firmware version
10 1.56.324896:

11 A commonality between each of these methods for creating a group is that the speakers added to
12 the group no longer continue their previous activity and instead either play back music (if that is
13 what the group was doing) or stop playback to match the group’s state of stopped playback.
14 Speakers added to a speaker group do not continue with their previous playback or non-playback
15 state when added to a group. For example, a speaker that is not playing back music and is added
16 to a group that is playing back music will begin playing back the music of the group when added
17 to that group. As another example, a speaker that is playing back music and is added to a group
18 that is not playing back music will stop playback when added to that group.

19 Schonfeld Rebuttal Report at ¶ 47. However, this statement is flawed for several reasons.

20 93. First, Dr. Schonfeld’s suggestion that “speakers added to the group *no longer*
21 *continue their previous activity* and instead either play back music (if that is what the group was
22 doing) or stop playback to match the group’s state of stopped playback” is incomplete and
23 inaccurate. As set forth above in Section IX.A, there are a number of scenarios where Accused
24 Google Players installed with newly-released firmware version 1.56.324896 “continue their
25 previous activity” after being added to a speaker group. For instance, in any scenario where an
26 Accused Google Player installed with newly-released firmware version 1.56.324896 is operating
27 in a standalone mode and is not engaging in active playback at the time when it is added to a new
28 speaker group, that Accused Google Player will “continue [its] previous activity” after being added

1 to the speaker group by continuing to operate in standalone mode and continuing not to engage in
2 active playback. Likewise, in any scenario where an Accused Google Player installed with newly-
3 released firmware version 1.56.324896 is operating in a standalone mode and is not engaging in
4 active playback at the time when it is added to a pre-existing speaker group that is unlaunched,
5 that Accused Google Player will “continue [its] previous activity” after being added to the pre-
6 existing speaker group by continuing to operate in standalone mode and continuing not to engage
7 in active playback.

8 94. Second, for similar reasons, Dr. Schonfeld’s suggestion that “[s]peakers added to a
9 speaker group do not continue with their previous playback or *non-playback state* when added to
10 a group” is incomplete and inaccurate. Again, as set forth above in Section IX.A, there are a
11 number of scenarios where Accused Google Players installed with newly-released firmware
12 version 1.56.324896 “continue with their previous . . . *non-playback state*” after being added to a
13 speaker group, including but not limited to the scenarios mentioned in the preceding paragraph.

14 95. Third, Dr. Schonfeld’s suggestion that when an Accused Google Player installed
15 with newly-released firmware version 1.56.324896 is added to a new speaker group, the Accused
16 Google Player “stop[s] playback to match the group’s state of stopped playback” is an inaccurate
17 and misleading characterization of the functionality for creating a new speaker group. In scenarios
18 where an Accused Google Player is added to a new speaker group being created, the group begins
19 in an uninvoked state (or an unlaunched state in Google’s terms) – not a “state of stopped
20 playback” as Dr. Schonfeld contends – and the Accused Google Player makes no reference to the
21 “group’s state” when handling the “join_group” message indicating that the Accused Google
22 Player has been added to the new speaker group.

23 96. Indeed, an Accused Google Player installed with newly-released firmware version
24 1.56.324896 carries out the same functionality for handling the “join_group” message that was
25 previously carried out by Accused Google Players installed with prior firmware versions, which
26 undisputedly did not involve any “match[ing]” of the “group’s state,” along with one additional
27 call to the “StopCurrentApp()” function discussed above. However, this “StopCurrentApp()”
28 function does not make any reference to the “group’s state,” let alone causes the Accused Google